



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/708,638

03/17/2004

Chi-Yang Lin

VIAP0101USA

2637

27765 7590 01/03/2007  
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION  
P.O. BOX 506  
MERRIFIELD, VA 22116

EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

01/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/708,638

Applicant(s)

LIN ET AL.

Examiner

Jeff Piziali

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicants' election of Species II (i.e., claims 1-5 and 7-16) in the reply filed on 18 October 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claim 6 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 18 October 2006.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### *Priority*

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

5. The disclosure is objected to because of the following informalities: "mirror ration" should be changed to "mirror ratio" (see Paragraph 21, Line 2 of the instant specification).

Appropriate correction is required.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5 and 7-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Devine (US 5,978,745 A).

Regarding claim 1, Devine discloses a display controller [Fig. 3; 104] for driving a monitor [Fig. 3; 302] comprising: a graphics chip [Fig. 3; 304] for outputting a display data (i.e., red, green, and blue video data); and a converter [Fig. 3; 310] for converting the display data into a display driving voltage (see Column 6, Lines 38-43 -- i.e., red, green, and blue voltage signals), the converter comprising: a current mirror circuit [Fig. 3; 320, 322, 324] (see Column 6, Lines 20-28) for generating an output current (i.e., present current) according to a reference current

Art Unit: 2629

(i.e., target current) and the display data, the output current and the reference current corresponding to a mirror ratio, the output current being delivered to the monitor for generating the display driving voltage (see Column 5, Line 46 - Column 6, Line 43); and a voltage calibration circuit [Fig. 3; 308] for modifying the mirror ratio according to the display driving voltage and a predetermined display driving voltage and adjusting (via gain) the output current to drive the display driving voltage to approach the predetermined display driving voltage (see Fig. 5; Column 6, Line 53 - Column 7, Line 43).

Regarding claim 2, Devine discloses the current mirror circuit comprises: a first current route [via BCC 208] for delivering the reference current; and a plurality of second current routes [Fig. 3; 320, 322, 324] electrically connected to the first current route for delivering a plurality of mirror currents to an output port of the converter to form the output current (see Fig. 5; Column 6, Line 53 - Column 7, Line 43).

Regarding claim 3, Devine discloses the voltage calibration circuit comprises: a mirror ratio controller [Fig. 3; 310] for controlling the mirror ratio; a comparator [Fig. 5; 506, 512] for comparing the display driving voltage with the predetermined display driving voltage to generate a comparison result [Fig. 5; delta]; and a state machine [Fig. 5] for generating a setting value [Fig. 5; 510, 516] according to the comparison result and outputting the setting value to the mirror ratio controller to adjust the mirror ratio (see Fig. 5; Column 6, Line 53 - Column 7, Line 43).

Regarding claim 4, Devine discloses the setting value is used for lowering the mirror ratio if the display driving voltage is greater than the predetermined display driving voltage [Fig. 5; 512, 514, 516], and the setting value is used for raising the mirror ratio if the display driving voltage is not greater than the predetermined display driving voltage [Fig. 5; 506, 508, 510] (see Column 6, Line 53 - Column 7, Line 43).

Regarding claim 5, Devine discloses the mirror ratio controller comprises a plurality of mirror ratio setting units [Fig. 3; 320, 322, 324], and the mirror ratio controller activates a predetermined amount of mirror ratio setting units according to the setting value for adjusting the mirror ratio (see Fig. 5; Column 6, Line 53 - Column 7, Line 43).

Regarding claim 7, Devine discloses the mirror ratio setting units correspond to a plurality of adjustment magnitudes (i.e., deltas and gains) when adjusting the mirror ratio (see Fig. 5; Column 6, Line 53 - Column 7, Line 43).

Regarding claim 8, Devine discloses each of the mirror ratio setting units is electrically connected to the first current route through a current mirror means (see Fig. 3; Column 5, Line 46 - Column 6, Line 43).

Regarding claim 9, Devine discloses the state machine enters a first operating state for adjusting the setting value to drive the mirror ratio controller to lower the mirror ratio if the comparison result corresponds to a first logic level [Fig. 5; 512, 514, 516], and the state machine

Art Unit: 2629

enters a second operating state for adjusting the setting value to drive the mirror ratio controller to raise the mirror ratio if the comparison result corresponds to a second logic level [Fig. 5; 506, 508, 510] (see Column 6, Line 53 - Column 7, Line 43).

Regarding claim 10, Devine discloses the state machine will leave the first operating state and enter a third operating state [Fig. 5; 518] for holding the setting value if the state machine stays at the first operating state, and the comparison result corresponds to the second logic level, and the state machine will leave the second operating state and enter the third operating state for holding the setting value if the state machine stays at the second operating state, and the comparison result corresponds to the first logic level (see Column 6, Line 53 - Column 7, Line 43).

Regarding claim 11, this claim is rejected by the reasoning applied in rejecting claim 1.

Regarding claim 12, this claim is rejected by the reasoning applied in rejecting claims 1 and 2.

Regarding claim 13, this claim is rejected by the reasoning applied in rejecting claim 3.

Regarding claim 14, this claim is rejected by the reasoning applied in rejecting claim 4.

Art Unit: 2629

Regarding claim 15, this claim is rejected by the reasoning applied in rejecting claims 4 and 9.

Regarding claim 16, this claim is rejected by the reasoning applied in rejecting claim 10.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chang et al (US 6,700,438 B2), Yen (US 6,674,302 B2), Manhaeve et al (US 6,441,633 B1), Cappels (US 5,821,917 A), Cappels (US 5,512,961 A), Griffin et al (US 5,313,273 A), Kumagai et al (US 4,706,108 A), Matsuzaki et al (US 4,703,345 A), and Hosoya (US 4,183,049 A) are cited to further evidence the state of the art pertaining to display controllers.



Art Unit: 2629

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in cursive script, appearing to read "Jeff Piziali".

Jeff Piziali  
26 December 2006